

LSI.76US01 (03-1070)

REMARKS

Claims 1-28 are currently pending in the above-identified patent application. Claims 14 and 27 have been canceled.

In the Office Action dated October 26, 2005, made final, claims 14 and 28 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, since the Examiner stated that these claims are incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. The omitted structural cooperative relationships were identified by the Examiner as being claim 14 and 28 each claiming that hard disks are oriented such that one of small faces is perpendicular to the backplane, in contradiction to their parent claims, 1 and 15, respectively. Applicants wish to thank the Examiner for having pointed out this inconsistency. Claims 14 and 27 have been canceled by this Amendment Under Rule 1.116, and claim 28 has been amended in response to the Examiner's concerns. Claim 28 now recites the orientation of at least one of the large faces of the hard disks in a manner consistent with independent claim 15. No new matter has been added by these changes.

Claims 1-4, 6-8, 10-11, 13-18, 20-22, 24-28 were rejected under 35 U.S.C. 102(e) as being anticipated by Malcolm et al. (US Patent Application Publication 2004/0105225 A1), since the Examiner stated that Malcolm et al. teaches a rack-mounted storage system, Figs. 1-3b, with multiple disk drives 11, comprising: a rectangular prismatic enclosure 19 with six substantially planar sides having at least two largest sides 17, 18, a primary access side 26 and an input/output side 20, said primary access side 26 not being one of said largest sides 17, 18 and said input/output side 20 being opposite of and substantially parallel to said primary access side 26; a back plane 12 having a plurality of disk drive interface connectors 14 and at least one interface connector 15; a plurality of 2.5 inch factor disk drives 11 having an elongated rectangular prismatic shape mounting frame comprising two large faces and two small faces, one of said two large faces oriented perpendicularly to said backplane 12; each of said disk drives having a connector

LSI.76US01 (03-1070)

13 plugged in one of said connectors 14; and said backplane 12 with said plurality of disk drives 11 being slidingly engaged into an interface connector 23 and adapted to be removed from said enclosure through said access side as a single unit.

Applicants respectfully disagree with the Examiner concerning this ground of rejection for the reasons to be set forth hereinbelow.

Claims 9 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malcolm et al., since the Examiner stated that Malcolm et al. teaches all limitations of the claims except said hard disk is a 1 inch factor disk drive. The Examiner concluded that it would have been an obvious matter of design choice to install 1 inch factor disk drives, since applicants have not disclosed that the form factor of a disk drive solves any stated problem or is for any particular purpose and it appears that the proposed invention would perform equally well with any size of hard disks.

Applicants respectfully disagree with the Examiner concerning this ground of rejection for the reasons to be set forth hereinbelow.

Reexamination and reconsideration are requested.

Turning now to the rejection of claims 1-4, 6-8, 10-11, 13-18, 20-22, 24-28 under 35 U.S.C. 102(e) as being anticipated by Malcolm et al. (US Patent Application Publication 2004/0105225 A1), applicants wish to direct the Examiner's attention to paragraph [0015] of Malcolm et al. where it is stated: "FIG. 2a is a front view of a frame 10 according to the invention. The frame is L shaped in FIG. 2a, with a vertical portion (typically of metal such as aluminum) more or less parallel to drive 11 and a horizontal portion. In some cases the horizontal portion may literally be the same as printed circuit board 12, but it is thought preferable that the horizontal portion include a strong portion (typically made of metal such as aluminum) that is affixed to the vertical portion or, preferably, is integrally formed with it."

Clearly, an "L-shaped" frame having the considerably longer portion thereof in the vertical direction (perpendicular to top face 17 and bottom face 18 in Fig. 1 of Malcolm et al.) is not claimed or taught in the present patent application; rather "a

LSI.76US01 (03-1070)

back plane oriented substantially parallel to said at least one of said two largest sides ..." of a rectangular prismatic enclosure is claimed therein. Moreover, subject claim 1 recites: "a plurality of disk drives having an elongated rectangular prismatic shape comprising two large faces and two small faces, one of said two large faces oriented perpendicularly to said backplane ..." .

Turning to paragraphs [0019]-[0021] of Malcolm et al., it is stated that: "FIG. 3b is a close-up rear view of the frame 10 of FIG. 3a. The PCB 12 may be seen in an end view. The frame 10 has a connector 15 for power and data. This connector 15 mates with a connector 23 of the centerplane 21, as shown in FIG. 1. In FIGS. 3a and 3b it will be appreciated that typically three other drives are parallel to the drive 11 portrayed in the figure, but are behind or in front of the drive and thus only one of the drives 11 is visible. This arrangement consists of an "L" frame 10 allowing the placement of some number of drives 11 standing vertically in the frame 11 with connectors 13 facing down."

Paragraph [0025] of Malcolm et al. states: "... The frame 10 will slide into the enclosure 19 to the desired depth, and then its connector 15 will be cammed vertically down to connector 23 on the backplane or centerplane 21. ..." Thus, Malcolm et al. defines the backplane thereof to be element 21, to which disk drives 11 are not directly connected or mounted. Paragraph [0014] of Malcolm et al. states in part: "... Each drive 11a, 11b, 11c, and 11d has a connector at the bottom of the drive (as oriented in FIG. 1) which plugs into a mating connector on printed circuit board (PCB) 12. ..." By contrast, present claim 1 recites: "... said back plane having a plurality of disk drive interface connectors and at least one interface connector ..." . Clearly, the back plane of Malcolm et al. functions in a different manner than that of the present claimed invention.

Paragraph [0037] of Malcolm et al. states in part: "Described in different terms, the disk drive enclosure has a front, a rear, a left, a right, a top, and a bottom, the enclosure comprising a plurality of frames substantially parallel to each other and extending from the front of the enclosure toward the rear of the enclosure. ..." By contrast, present claim 1 recites in part: "... a back plane ..." .

LSI.76US01 (03-1070)

For these reasons, applicants believe that Malcolm et al. teaches away from the present claimed invention, and neither anticipates nor renders obvious the present invention.

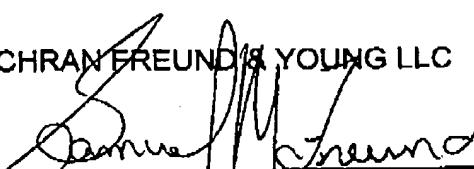
Since Malcolm et al. clearly teaches away from present claims 1 and 15, applicants believe that these claims are patentably distinguishable from Malcolm et al. Therefore, claims 2-13, and 16-26 and 28 are also patentable, as being dependent from patentable independent claims.

In view of the discussion presented hereinabove, applicants believe that subject claims 1-13, 15-26, and 28, as amended, are in condition for allowance or appeal, the former action by the Examiner at an early being earnestly solicited.

Reexamination and reconsideration are respectfully requested.

Respectfully submitted,

COCHRAN FREUND & YOUNG LLC

By: 

Samuel M. Freund
Attorney for applicants
Reg. No. 30,459
2026 Caribou Drive, Suite 201
Fort Collins, Colorado 80525
Phone: (970) 492-1100
Fax: (970) 492-1101
Customer No.: 27479

Date: November 21, 2005